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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/729,497	12/05/2003	Ahmed S. Abuclyaman	58069US004	1945
32692 7590 06/13/2007 3M INNOVATIVE PROPERTIES COMPANY PO BOX 33427 ST. PAUL, MN 55133-3427				
EXAMINER ROBERTS, LEZAH				
ART UNIT		PAPER NUMBER		
1614				
NOTIFICATION DATE		DELIVERY MODE		
06/13/2007		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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**Office Action Summary**

Application No.

10/729,497

Applicant(s)

ABUELYAMAN, AHMED S.

Examiner

Lezah W. Roberts

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-74 is/are pending in the application.
- 4a) Of the above claim(s) 5,7,27,29 and 46-74 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4,6,8-26,28 and 30-45 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date A-C.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Restriction Requirement and Election of Species***

Applicant's election with traverse of Group I as the elected invention, (1-hydroxy-6-methacrylamidohexylidene) bisphosphonic acid) as the bisphosphonic acid compound, HEMA as the polymerizable component and a composition for promoting adherence of a dental restorative material to a hard surface for the type of compositions in the reply filed on February 20, 2007 is acknowledged. The traversal is on the ground(s) that the claims of Groups I and II are so interrelated that a search of one group of claims will reveal art to the other. The different classification between the two groups is not necessarily sufficient grounds to require a restriction. Restriction would require substantial duplication of work on the part of the U.S. Patent and Trademark Office and would place an undue burden on Applicant by requiring payment of other fees and associated cost of prosecuting two applications. This is not found persuasive because the search for one group may lead to not only inventions relating to the other group but also inventions relating to divergent subject matter. In regards to filing two applications, Applicant may be entitled to rejoinder of the two groups if the elected group is found allowable and the nonelected group is in condition for rejoinder.

The requirement is still deemed proper and is therefore made FINAL.

Claims 5, 7, 27, 29 and 46-74 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention and species, there being

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no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on February 20, 2007.

## ***Claims***

### **Claim Rejections - 35 USC § 112 – Written Description**

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-4, 6, 8-12, 15-26, 28, 30-38 and 41-45 are rejected under 35

U.S.C. 112, first paragraph, as failing to comply with the written description requirement.

The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claims recite the limitation R1 is a polymerizable group.

The appearance of mere indistinct words in a specification or a claim (here the phrases "polymerizable component" and "polymerizable group"), even an original claim, does not necessarily satisfy the written description requirement. The disclosure must allow one skilled in the art to visualize or recognize the identity of the subject matter purportedly described. Univ. of Rochester v. G.D. Searle, 69 USPQ2d 1886, 1892 (CAFC 2004). A description of what a material does, rather than of what it is, usually

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does not suffice to provide an adequate written description of the invention. Univ. of Cal. v. Eli Lilly, 119 F.3d 1559, 1568 (Fed. Cir. 1997).

The specification specifically discloses only addition polymerizable groups and components such as ethylenically unsaturated including acrylic acid esters, methacrylic acid esters, hydroxy-functional acrylic acid esters, hydroxy-functional methacrylic acid esters, and combinations thereof. There are many types of "polymerizable groups" other than addition polymerizable groups, e.g., condensation polymerizable groups such as ester/alcohol polyester reactions and ring opening polymerizable groups such as propylene oxide. No such other groups are described. Therefore the claims lack written description.

#### **Claim Rejections - 35 USC § 102 - Anticipation**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 6, 8-26, 28 and 30-45 are rejected under 35 U.S.C. 102(b) as being anticipated by Haberland et al. (DD 273 846 A1, Already of Record).

Haberland et al. disclose compositions comprising N-acryloyl-amino-methane-bisphosphonic acid in compositions that promote adhesion to hard living tissue such as bone and teeth. The compositions comprise 0.01 to 10% wt. of the bisphosphonic acid. The compositions are aqueous solutions. The acid is made into a primer composition.

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The primer composition may then be mixed with fillers, benzoyl peroxide, N,N-di(beta-hydroxy-ethyl)-p-toluidine, TEGMA and BisGMA (see example 3). In regards to the reducing agent, water may act as a reducing agent. The intended use of the bisphosphonic acid comprising compositions carries no weight in determining the patentability of the instant claims because the compositions disclosed by the reference comprise substantially the same compounds, i.e., the bisphosphonic acids of instant formula I and II and a polymerizable component, as the compositions disclosed and claimed by the Applicant. Accordingly, in regards to the intended use claims 3-4 and 25-26, one would have reasonably expected that the compositions of the reference have substantially the same properties, such as the ability to be a self-etching primer or a self-etching adhesive, as the applicant's compositions, since the compositions of the reference and the compositions of the instant claims are substantially the same. The reference anticipates the instant claims insofar as it discloses a composition comprising a compound of formula I or II and a polymerizable component.

**Claim Rejections - 35 USC § 103 – Obviousness**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-4, 6, 8-26, 28 and 30-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Omura et al. (US 4,499,251, Already of Record).

Omura et al. disclose adhesive compositions comprising compounds that are encompassed by formula I and II of the instant claims. The compounds comprise two phosphates groups joined by an alkyl (see col. 6, particularly the third structure; also see col. 8, particularly structure 6 from the top). The compounds may be mixed with monofunctional methacrylates such as 2-hydroxyethyl methacrylate (HEMA) (col. 15, lines 60-67). The compositions may be used as dental adhesives and primers in filling a dental filling material in a tooth cavity. Solvents used include organic solvents and water. Fillers such as silica, and curing agents such as redox initiators, which include oxidizing and reducing agents, and photosensitizers may also be incorporated into the compositions (col. 17-18). The compounds of the reference are incorporated into the compositions at concentrations of 1.5% or more (col. 17, lines 18-20).

The reference is not anticipatory insofar as one must "pick and choose" from different lists of compounds of formula 1 and methacrylate monomers. That being said,

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it would have been obvious in a self-evident manner to have selected compounds encompassed by the formula of the instant claims from one list and HEMA from another, motivated by the unambiguous disclosure of each individually, and consistent with the basic principle of patent prosecution that a reference should be considered as expansively as is reasonable in determining the full scope of the contents within its four corners.

Claims 1-4, 6, 8-26, 28 and 30-45 are rejected.

Claims 5, 7, 27, 29 and 46-74 are withdrawn.

No claims allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lezah W. Roberts whose telephone number is 571-272-1071. The examiner can normally be reached on 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ardin H. Marschel can be reached on 571-272-0718. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Lezah Roberts  
Patent Examiner  
Art Unit 1614



Frederick Krass  
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